

DETAILED ACTION

1. This is the initial Office action based on the 10/506963 application filed on April 20, 2005.
2. Claims 1-14 are pending and have been fully considered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over DUBIN (US 5,284,492).

With respect to claims 1-14 DUBIN discloses an enhanced lubricity water and fuel oil emulsion for reducing nitrogen oxides emissions and improving combustion efficiency in a stationary, electric power generating source (column 3 lines 30-35). The fuel oil can be referred to as a light crude **naphtha** fuel oil (column 3 lines 49-60). The subject emulsions advantageously comprise **water-in-fuel oil** emulsions having up to about 90 % water by weight. When the emulsion is to be combusted simultaneously with a natural gas, the emulsion comprises about 60% to about 90 % water (column 4 lines 5-11). Suitable n-substituted alkyl amines and alkanolamides which can function to stabilize the emulsion of the present invention are those formed by the condensation of, respectively, an alkyl amine and an organic acid or a hydroxyalkyl amine and an

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organic acid, which is preferably of a length normally associated with fatty acids.

They can be mono-, di-, or triethanolamines and include any one or more of the

following: **oleic diethanolamide** (formed from oleic acid), **cocamide**

diethanolamine (DEA), **polyoxyethylene (POE) cocamide**, as well as mixtures

thereof (column 5 lines 18-40). A desirable emulsification system which can be

utilized comprises about 25% to about 85% by weight of an amide, especially an

alkanolamide or n-substituted alkyl amine; about 5% to about 25% by weight of a

phenolic surfactant; and about 0% to about 40% by weight of a di-functional

block polymer terminating in a primary hydroxyl group. More preferably, the

amide comprises about 45% to about 65% of the emulsification system; the

phenolic surfactant about 5% to about 15%; and the di-functional block polymer

about 30% to about 40% of the emulsification system (column 5 lines 7-17).

DUBIN does not explicitly state the order of the emulsification system but does

disclose the emulsification system may further comprise up to about 30% and

preferably about 10 to about 25% of a light fuel oil, most preferably the light

crude **naphtha** fuel oil which comprises the continuous phase of the inventive

emulsion. It would have been obvious to one of ordinary skill in the art to

combine the components of the emulsification system in any order because the

method is simply a design choice which produces the same product. Desirably,

the emulsification system should be present at a level which will ensure effective

emulsification. Preferably, the **emulsification system** is present at a level of at

least about **0.05% by weight** of the emulsion to do so. Although there is no true

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upper limit to the amount of the emulsification system which is present, with higher levels leading to greater emulsification and for longer periods, there is generally no need for more than about 5.0% by weight, nor, in fact, more than about 3.0% by weight (column 6 lines 44-53). The discovery of an optimum value of a known result effective variable, without producing any new or unexpected results, is within the ambit of a person of ordinary skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LATOSHA HINES whose telephone number is 571-270-5551. The examiner can normally be reached on Monday thru Thursday from 8 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Ellen M McAvoy/

Primary Examiner, Art Unit 1797

/LATOSHA HINES/
Examiner, Art Unit 1797